

73 PRESERVING,  
Panification.

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1898

*Pea nut flour  
+ white flour.*

*N.S. 617266*

N<sup>o</sup> 27,554



A.D. 1897

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Date of Application, 23rd Nov, 1897

Complete Specification Left, 20th June, 1898—Accepted, 13th Aug., 1898

PROVISIONAL SPECIFICATION.

**An Improved Foodstuff, suitable also for Mixing with Flour and other Foodstuffs.**

I, EDWIN BURGESS WATSON, of Vellore, Mowbray Road, Upper Norwood, in the County of Surrey, Food Specialist, do hereby declare the nature of this invention to be as follows:—

This invention relates to an improved foodstuff suitable also for mixing with  
5 flour and other foodstuffs.

The said invention has reference more particularly to the manufacture of a pure white flour or meal from the nuts known as pea-nuts or ground-nuts. At the present time an oil is extracted from these nuts which serves as a substitute for olive oil, and after such extraction there is left behind a cake of compressed  
10 material of a highly nutritious character, but unsuitable as an article of human food partly on account of the impurities it contains which give to it a dark colour and other objectionable qualities, and partly an account of the presence therein of the germs of the nuts which are liable to set up fermentation, particularly if incorporated with such articles as wheaten flour.

15 Now according to my invention I subject the nuts, after removal of the husk, and prior to the oil extraction process, to a treatment which removes from them their coverings or skins and also the whole or the greater part of the germs, leaving behind only the clean white portion or body of the nuts. By this means after the nuts have been pressed to effect the extraction of the oil, a clean white cake is  
20 left behind which when ground up gives a palatable meal of a highly nutritious character, which can either be eaten alone or be mixed with or added to other articles of food for the purpose of enriching the same. It is well known that many of the food grains most commonly used for human food are deficient in flesh formers. This deficiency is accentuated in their flour products notably in wheaten flour in which a heavy percentage of the flesh forming elements is eliminated to  
25 meet the demand for a white flour. My improved flour or meal can be mixed with ordinary white flour, say in the proportion of one to ten, without danger of impairing the colour of bread or other articles made therewith and with the advantage of materially increasing the nutritive and digestive properties thereof.

30 The said meal can in some cases also be used as a substitute for starch, for example in the manufacture of cocoa preparations.

According to one method of carrying out the invention I subject the nuts, after the removal of their shells, to a temperature such as they will bear without danger of coagulating the albumen compounds in them, a suitable temperature being  
35 for example rather less than 180° Fahrenheit. The nuts are kept at this temperature for some time which causes them to swell or expand, after which they are allowed to cool, when the skins shrivel up and become loosened from the nuts. The latter are then placed in a revolving screen or other suitable decorticating apparatus whereby the skins are finally removed. The removal of the skin and  
40 the action of the decorticating machine has the effect of detaching and removing

[Price 8d.]

26

*An Improved Foodstuff suitable also for Mixing with Flour and other Foodstuffs.*

the greater part of the germs of the nuts, and the final separation of the said germs can be effected by sifting or by other suitable means.

The nuts are now ready to have the oil extracted from them after which they can be ground up or pulverised to form the flour or meal before referred to.

In manufacturing this flour or meal heat may be applied to drive off moisture or to develop flavour or to modify the colour. I may also in some cases add to the flour or meal a small quantity of the hypo-phosphites of lime or soda or both or other desirable food ingredients.

Dated this 23rd day of November 1897.

HASELTINE, LAKE & Co.,  
45, Southampton Buildings, London, W.C., Agents for the Applicant.

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## COMPLETE SPECIFICATION.

**An Improved Foodstuff, suitable also for Mixing with Flour and other Foodstuffs.**

I, EDWIN BURGESS WATSON, of Vellore, Mowbray Road, Upper Norwood, in the County of Surrey, Food Specialist, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

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This invention relates to an improved foodstuff suitable also for mixing with wheaten flour and other food stuffs.

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The said invention has reference more particularly to the manufacture of a pure, white and palatable flour or meal from the nuts or seeds commonly known as pea-nuts or ground-nuts and termed in botany "*Arachis hypogæa*." At the present time an oil is extracted from these nuts or seeds which serves as a substitute for olive oil, and after such extraction there is left behind a cake of compressed material of a highly nutritious character, but unsuitable as an article of human food partly on account of the debris of the husks and skins and other impurities it contains, which give to it a dark colour and other objectionable qualities, and partly on account of the presence therein of the germs of the nuts or seeds which are liable to set up fermentation, particularly if incorporated with such articles as wheaten flour.

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Now according to my invention I subject the nuts or seeds after removal of the husks, and prior to the oil extraction process, to a treatment which removes from them their coverings or skins and also the whole or the greater part of the germs, leaving behind only the clean white portion or body of the nuts or seeds. Or when I prefer to retain the germs, I render the fermentive elements in them inert by scalding or by the application of steam.

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By this treatment after the nuts have been pressed to effect the extraction of the oil, a clean white cake is left behind which when ground up gives a palatable flour or meal of a highly nutritious character, adapted either to be eaten alone or to be mixed with, or added to other articles of food for the purpose of enriching them.

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It is well known that many of the food grains most commonly used for human food are deficient in flesh formers. This deficiency is accentuated in their flour products, notably in wheaten flour, in which a heavy percentage of the flesh forming elements is eliminated to meet the demand for a white flour. My improved flour or meal can be mixed with ordinary white flour, say in the proportion of one to ten, without danger of impairing the colour of bread or other articles made therewith, and with the advantage of materially increasing the nutritive and digestive properties thereof. Although I have stated above the proportions in

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*An Improved Foodstuff suitable also for Mixing with Flour and other Foodstuffs.*

which my improved flour or meal may be used with ordinary white flour, I wish it to be understood that such proportions may be varied without departing from the nature of my invention.

According to one method of carrying out the invention I subject the nuts or seeds, in a suitable oven, or other heating chamber, preferably after the removal of their shells, to a dry heat, such as that of air heated to a temperature which the nuts will bear without danger of coagulating the albumen compounds in them, or deteriorating the quality of the oil to be extracted from the nuts or seeds or affecting the white colour of the residuum to be obtained after pressing, a suitable temperature being for example rather less than 180° Fahrenheit. The nuts or seeds are kept at this temperature for a sufficient time to cause them to swell or expand, after which they are allowed to cool, when the skins shrivel up and become loosened from the nuts or seeds.

The latter are then placed in a revolving screen or other suitable decorticating apparatus, whereby the skins are finally removed. The removal of the skins has the effect of detaching the greater part of the germs of the nuts or seeds, and the final separation of the said germs can be effected by sifting or by other suitable means.

According to a modified method of carrying out the invention, applicable more especially in cases where I prefer to retain the germs in the residuum, I subject the said nuts or seeds, preferably after removal of their shells, to a moist or damp heat at a temperature of about 212° Fahrenheit for a sufficient period,—say for about ten minutes—to render inert the fermentive elements contained in the germ. This treatment of the nuts or seeds may be effected by a scalding or steaming process which does not injure the colour of the residuum to be obtained after pressing; the said process also renders the skin of the nuts or seeds easily removable by ordinary mechanical means, after which the nuts or seeds are dried before pressing.

The nuts are now ready to have the oil extracted from them, which is done by pressure in the ordinary way, after which they can be ground up or pulverised to form the flour or meal before referred to.

In manufacturing this flour or meal heat may be applied to drive off the moisture or to develop the flavour or to modify the colour thereof. I may also in some cases add to the flour or meal a small quantity of the hypophosphites of lime or soda or both, or I may add other desirable food ingredients.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A foodstuff in the form of flour or meal prepared from the edible portion of the pea-nut or ground-nut, after the whole or the greater portion of the oil has been expressed from the same, and after the whole or the greater portion of the germ of the seed has been removed, or the fermentative elements in the germ have been rendered inert substantially as hereinbefore described.

2. A foodstuff produced from pea-nuts or ground-nuts substantially as and for the purposes described.

Dated this 20th day of June 1898.

HASELTINE, LAKE & Co.,  
45, Southampton Buildings, London, W.C., Agents for the Applicant.